California GARDEN

JANUARY—FEBRUARY 1983
Seventy-five Cents
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HORTICULTURAL CALENDAR

Jan 8, 9

San Diego Rose Society Rose Pruning Demonstration
Parker Rose Garden, Balboa Park, San Diego
Sat: 10:00 a.m. to 2:30 p.m. Sun: 10:00 a.m. to 2:00 p.m. Free

Jan 15, 16

San Diego Camellia Society Mini Show
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sat: 11:00 a.m. to 5:00 p.m. Sun: 10:00 a.m. to 5:00 p.m. Free

Jan 22

Botany for Breakfast Series: "Bamboos of the San Diego Zoo"
Presentation by Richard Haubrich, President, American Bamboo Society
Rondavel Room, San Diego Zoo – Continental Breakfast
Saturday, 8:00 a.m. Info & Reservations: 231-1515 Ext. 412

Jan 23

First Anniversary Ichiyo School, San Diego Branch – Theme: "Prosperity"
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sun: 11:00 a.m. to 4:30 p.m. Free

Feb 2, 9, 16, 23

S
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Thursday Workshop with Colleen Winchell
Free Floral Crafts Instruction – Open to the Public
San Diego Floral Asso. Garden Center, Balboa Park, San Diego
10:00 a.m. to 3:00 p.m. Info: Colleen Winchell 479-6433

Feb 5, 6

San Diego Camellia Society 36th Annual Spring Show
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sat: 1:00 to 5:00 p.m. Sun: 10:00 a.m. to 5:00 p.m. Free

Feb 15

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San Diego Floral Association Meeting
Exhibit and talk by Steve Brigham on rare plants.
This meeting honors the Quail Botanical Gardens (Encinitas, Calif.)
Sales table with some of the rare plants.
Casa del Prado, Majorca Room, Balboa Park, San Diego
Tuesday, 6:30 p.m. – "Open to the Public"
Hot Chicken Box Supper – $1.50 per person – "Door Prizes"
Information & Reservations: 232-5762

Feb 19, 20

Ikenobo School of Ikebana Seventh Annual Exhibit
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sat. & Sun: 11:00 a.m. to 4:30 p.m. Free

Feb 26

Botany for Breakfast Series: "Aloes of the San Diego Zoo"
Presentation by Bill Knerr, Plant Propagator, San Diego Zoo
Rondavel Room, San Diego Zoo – Continental Breakfast
Saturday, 8:00 a.m. Info & Reservations: 231-1515 Ext. 412

Feb 26, 27

San Diego Orchid Society Spring Mini Show
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sat: Noon to 4:30 p.m. Sun: 10:00 a.m. to 4:30 p.m. Free

Mar 2

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"Design Extravaganza" Flower Arranging Demonstrations by Adrienne Green and Sadako Oehler
Atlantis Restaurant, 2595 Ingraham St., San Diego
Wednesday, 10:00 a.m. to 2:30 p.m. – Champagne Brunch
$17.50 – Information & Reservations: Skipper Cope 459-7688

San
Diego
Floral
Association Events

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JANUARY — FEBRUARY 1983

VOLUME 74 NUMBER 1

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COVER: Citrus limon 'Improved Meyer' by free-lance artist Ilse Scheer of La Jolla, California. For over nine years she has contributed these artistically pleasing and horticulturally accurate drawings for our covers.

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THE VERSATILE LEMON

ALLETHE MACDONALD

THE VERSATILE LEMON (*limone* to the Italian, *limon* to the Spaniard, *citron* to the French) is perhaps the most popular indoor/outdoor citrus with the most varied uses.

The lemon is thought to have originated in the eastern Himalayan region of India and adjoining areas. Archeological evidence indicates that it reached Italy by the end of the second century. Mosaics of citrons, lemons, and oranges decorate the mausoleum of Lady Constantia, daughter of Constantine the Great. Apparently Italian gardeners grew citrus until the gardens were destroyed during the Lombard invasion.

Arab writers of the 12th century mention the lemon as among the citrus grown in Spain at that time. Not long thereafter the Crusaders took it from Palestine to southern Europe, Italy in particular, and it is known that the lemon was among the fruits taken to the New World by Columbus on his second voyage in 1493.

In 1769 citrus was introduced to California by the Franciscan friar, Padre Junipero Serra. Lack of water was a problem, but the missionaries were good gardeners and citrus flourished in the California climate.

Lemons are highly valued as ornamentals as well as for food. Louis XIV built an elaborate orangery at Versailles for potted ornamental citrus so he could enjoy their fragrance in his palace. Lemons tend to flower throughout the year giving the garden that same delightful fragrance Louis XIV appreciated. The cool coastal conditions in southern California accentuate their "everblooming characteristics."

Lemons can be grown indoors or outdoors, and in planting design may be used as individual specimens, for hedges, and as container plants. They can also be espaliered successfully. Unlike most other citrus, lemons should be pruned to keep them from becoming too tall and rangy. Pruning also results in a more compact and densely foliated tree which adds to its landscape appeal.

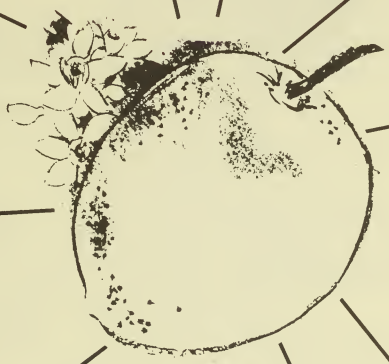
The 'Improved Meyer' lemon is a handsome landscaping plant. Large glossy leaves and clusters of fragrant flowers make this a choice selection for any garden and is especially delightful when grown under bedroom windows because of its fragrance. This variety makes an attractive hedge as it tolerates rather severe pruning. It will tolerate much more cold than other lemons and will start bearing fruit

After squeezing – rub elbows in rind to soften and bleach, and rub fingers to remove stains.

To remove garlic, onion, fish or meat odors from your cutting board, rub the board with half a lemon.

Use lemon instead of vinegar for salad dressing

Get rid of sink stains by rubbing with half a lemon.



For low-salt diets use lemon juice instead of salt.

Rub a Half lemon dipped in salt on Copper pots and see them Shine!

Mildew can often be removed by rubbing it with lemon juice and salt.

Grind half of a lemon in the disposal to remove unpleasant odors.

Cover with whole cloves and dust with ground cinnamon to make a "sachet" for closet to discourage moths.

Make glass table tops sparkle by rubbing with lemon juice and drying and buffing with paper towels.

at an early age, often the first year. If grown on its own roots the 'Improved Meyer' will grow to 12 feet with a 15-foot spread; on dwarf stock it will be about half as large.

At one time the 'Meyer' lemon was carrying a virus infection and because of the danger to other citrus, its sale was greatly restricted. However, the University of California has introduced virus-free plants under the name 'Improved Meyer' lemon. Be sure you purchase a certified virus-free plant. These trees will bear a yellow tag from the California Department of Food and Agriculture.

The fruit of the two major commercial varieties, 'Eureka' and 'Lisbon' are almost identical in form and flavor. Both are grown successfully by home gardeners. They, too, will tolerate rigorous pruning, but will sucker excessively if kept below 5 or 6 feet.

'Eureka' which originated in California is a smaller, nearly thornless tree with an open growth habit. Its everbearing tendency makes it an excellent choice for home gardeners where frost is not an overwhelming concern.

'Lisbon,' a larger tree (up to 30 feet) has more thorns, but is densely foliated and is the most productive of the true lemons. It originated in Portugal and is more tolerant to heat, cold, wind and neglect than the 'Eureka,' making it the best selection for desert and inland areas.

'Ponderosa,' a natural hybrid of lemon and citron, has grapefruit-size fruit with a quite thick rind. The fruit is acid and juicy and can be used the same as a true lemon. Its over-size fruit and large leaves makes it an unusual ornamental. The 'Ponderosa' is well suited to espalier and container planting but may be grown as a specimen tree or hedge.

Few lemons that reach the supermarket are actually tree ripe. To be able to pick lemons at the optimum time is one of the joys of growing them. The esthetic appeal of handsome evergreen foliage, fragrant bloom at intervals throughout the year, and shiny yellow fruit is joy enough from any plant. □

Ref: *Citrus, How to Select, Grow and Enjoy* by Richard Ray and Lance Walheim. *In Praise of Lemons*, Indoor Citrus Society Newsletter, Spring 1982. *Sunset Western Gardening Book*.

CULTURE

All citrus requires sun most of the day, although lemons require less heat and will ripen well in cool coastal areas.

WATERING

Proper irrigation should meet the needs of the tree without keeping the soil excessively wet for a long period of time. Too much water may cause fruit to split or fall from the tree, but do not allow the leaves to wilt before watering.

The irrigation basin should extend somewhat beyond the drip line of the tree, but keep the area within 6 inches of the trunk as dry as possible to discourage brown rot gummosis.

Mature trees growing in the ground can be watered every three to six weeks during the warmest months of the year, less frequently when it is cooler, depending on the kind of soil and the temperature. Trees grown in containers generally need watering more frequently.

A sudden shedding of small fruit may be a tree's way of adjusting the size of the crop to its ability to produce good fruit, provided that the soil has not become too dry or the temperature much hotter than usual.

FERTILIZING

Nitrogen is the element most needed. A schedule of fertilizing that has proved effective is to apply a light feeding of nitrogen fertilizer in late winter and in midsummer. Give a final light feeding of citrus and avocado food the first of September to supply the phosphorous and potash needed. All fertilizers should be applied to moist soil and watered in.

Too much fertilizer can cause excessive growth and poor quality fruit. Follow instructions on package labels, but it is usually better to reduce the amount to apply according to the size of the tree.

MULCHING

To conserve moisture and discourage weeds, mulch with a 2-inch layer of material such as compost, wood chips, nitrogen-treated sawdust, or straw. Stones, roofing paper, or plastic may also be used as a mulch. Keep any material that tends to stay wet a few inches away from the trunk. Be sure the area mulched covers the root system which usually extends somewhat

beyond the ends of the branches.

PRUNING

Lemons may be pruned anytime to keep the tree within the size and shape desired. After pruning, if interior branches are exposed to the sun, paint them with whitewash or water-base latex paint to protect the bark from sunburn.

HARVESTING

For best flavor, a lemon should be picked when it becomes fully yellow. The 'Eureka' and 'Lisbon' keep well on the tree, but they lose acidity and if left too long become pithy and lose flavor. The 'Improved Meyer' holds well on the tree and sweetness increases.

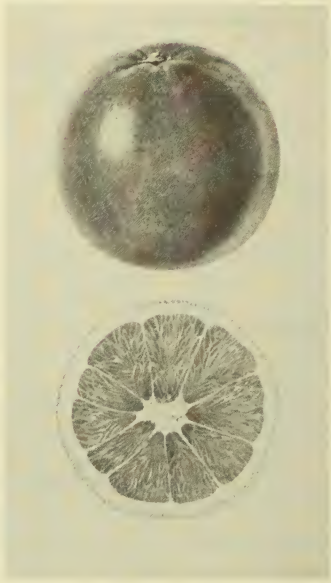
SEVENTY-FIVE YEARS OF CITRUS RESEARCH

GEORGE JAMES

FROM THE START of the California citrus industry in the 1860's, the pioneer citrus growers of southern California have shown an eagerness to explore every innovative method of production. These early growers conducted their own experiments. Despite public laughter at "heating the outdoors," the first scientific experiments on orchard heating was conducted in 1896.

The Regents of the University of California established the Citrus Experiment Station in Riverside, California, in 1907. Research on black alkali soils in the 1920's provided the first complete explanation of their origin and nature, leading to the reclamation of thousands of acres of land throughout the world.

In 1960, the Regents of U. of C. authorized the formation of a College of Agriculture. The Citrus Experiment Station was renamed Citrus Research Center and Agricultural Experiment Station (CRC-AES). This Center has become the world's leading research institution in citrus and subtropical horticulture.



A 1927 painting by R.C. Steadman for the U.S. Department of Agriculture of fruit from one of the original three Washington navel orange trees sent to Mrs. Eliza Tibbits and planted in Riverside, California in 1873. One tree is still alive at its original site.

• DISEASES

Several times in the past 75 years timely research has reduced greatly the damage from fruit and tree diseases. Tristeza disease began spreading rapidly in California after wiping out much of the citrus industry in South America, South Africa, and Java in the 1930's. Investigators at the experiment station established that tristeza was caused by a virus and that sour orange rootstock was responsible. The industry was saved by the development of a new disease-resistant rootstock.

The need for disease-free propagative budwood was evident long ago, but efforts were thwarted for many years. In the last 13 years, with the cooperation of state and federal agencies, a good supply of clean budwood has been made available to nurseries. The California program has reduced citrus tree disease losses and has been used as a model for similar projects in other countries.

By 1970 the Experiment Station's program was redesigned to meet the unique research needs of an increasingly urbanized southern California. New crops developed for semiarid conditions include jojoba and better yielding varieties of sesame. The Experiment Station emerged as a leading research center in plant tissue culture. From its laboratories have come techniques for propagating disease-free plants for many food, fiber, and ornamental species.

• CULTURAL PRACTICES

Since 1907 a major concern has been the development of more efficient fertilizers. It was found that citrus trees require substantial amounts of nitrogen annually to maintain good vigor and yield, but most did not respond to potassium and phosphorus applications. In recent years with the trend toward hillside plantings, research has determined that such soils are generally lower in native fertility and require the addition of potassium. As a result of CES studies the effects of mineral nutrition on fruit quality are better understood. For example, a potassium deficiency is associated with small fruit size; a high juice content low in acid; thin smooth,

well-colored peel; and a tendency toward excessive rind splitting. Very high levels of potassium are associated with large fruit having thick, coarse-textured, poorly colored peel, and a low juice content high in acidity. These effects of high potassium are accentuated by high nitrogen levels.

As a result of the efforts of CES scientists and others, few well-managed citrus orchards in California suffer low yield from faulty fertilization, whereas before WWII, most orchards produced below potential because of poor fertilizer practices.

• WEED CONTROL

Frequent mechanical cultivation for weed control has been found to be especially harmful. It resulted in reduced water penetration, impaired root development, and related effects that reduced tree vigor and productivity.

• PRUNING

An important finding of research on pruning has been that citrus does not respond in the same manner as other fruit trees, such as apple or peach. Pruning is not required to maintain fruit yield. If space is not sufficient, however, pruning is required to keep the trees relatively small. This is especially true for lemons.

• BIOLOGICAL CONTROL

Biological control research began in 1923. Experimental methods of evaluating the effectiveness of natural enemies were first emphasized at Riverside. In the 1920's, citrophilus mealybug became a catastrophic pest. Two parasite species were found through the detective work of a research worker sent to Australia. Complete control was gained by 1930 and this mealybug has been seen only rarely since. Over the years this effort has saved the California citrus industry a prodigious amount for the mere cost of $1700 expenses plus the researcher's salary of $50 per month.

Lately, the woolly whitefly has been brought under complete biological control. The parasites *Cales noacki* Howard from Chili in 1970, and *Amitus spiniferus* (Brethes), from Mexico and other countries in 1967-1970, have been responsible for this most recent great success.

Since 1978 the bayberry whitefly has invaded southern California and spread on citrus. Already two apparently new species of parasites are showing control of this pest in some study groves in 1982, but the ultimate degree of success remains to be seen, as in all research.

These are a few of the highlights of the tremendous amount of research done by the Citrus Research Center and Agricultural Experiment Station over the last seventy-five years. And the search goes on and on. □

Ref: 75 Years of Citrus Research, *California Agriculture*, University of California, Nov-Dec 1982.

Editor's note: It is interesting to note that the Citrus Experiment Station was established in 1907, the same year as the San Diego Floral Association was founded.

George James is an experienced gardener, retired nurseryman, and former horticulture instructor. He has lived in the San Diego area since 1913 and has maintained a keen interest in citrus research.

CITRUS MAXIMA

The pummelo tree, *Citrus maxima*, is also known as shaddock or pompelmous. It probably had its origins in Malaysia and Polynesia. The fruits of this tree have been esteemed by Chinese families in California for making candied citrus rind.

You may be startled to know that the fruits of all citrus are actually berries! (Yes—botanically speaking, that is how they are classified.) Pummelo has a thicker skin than its look-alike, the grapefruit. Victorians prized all citrus for fragrance, fruit and evergreen appearance. Introduced by Spanish padres and improved by horticulturists, citrus varieties have provided the base for a thriving California industry.

C.G.

SASANQUAS IN HANGING BASKETS

E. C. SNOOKS

PICTURE A SASANQUA camellia with an abundance of flowers and fine, glossy, closely spaced foliage cascading over a redwood hanging basket. You can see why it is unsurpassed in beauty for this type of planting.

To produce this beautiful display the plant must be in proper planting mix, in a basket of the proper size, and given proper care.

• SIZE OF BASKET

A 12-inch square, 7 or 8 inches deep redwood basket with slightly tapered sides makes an excellent container for a gallon-size plant. The basket must have a minimum of four, screen covered, half-inch holes in the bottom to provide good drainage.

• POTTING SOIL

A mixture of one-third redwood compost (or half compost and half peat moss), one-third good garden loam (no clay), and one-third coarse sand makes a good mixture. To lighten the basket, use perlite instead of sand. If peat moss is used, be sure it is completely moist before adding it to the redwood compost.

• LOCATION

These plants can be grown in full sun in the coastal area. However, the foliage will not hold its dark green color and the plants will tend to dry out quickly in hanging baskets. The ideal place is in a lath house, under trees or in a patio where they can get approximately 50 percent sun or filtered light. All camellias must have sufficient sun or filtered light to make good buds.

• WATERING

The soil should never be allowed to dry out completely. The frequency of watering however, will depend upon soil mix, location, and weather conditions. Also, it is important not to overwater, since air cannot penetrate water-saturated soil and the plant root system will rot from being too wet over a long period of time. One method of determining soil moisture is to scratch the soil with your finger and if it is moist slightly below the surface, the plant does not need watering even though the surface appears to be dry. Experienced gardeners can place their hand under a basket and lift it; if the basket is light, the plant needs water. Very soon you can become an expert and will not have to get your finger dirty or disturb the roots of the plant.

When you do water it is much better to saturate the soil. Allow sufficient excess water to drain from the bottom of the container to keep the salts flushed out of the root system.

• FERTILIZING

Fertilizing should not be done until March or early April. Since blooms are desired rather than increased size, one must use restraint when fertilizing. For the first feeding use cottenseed meal only. One or two tablespoonfuls will be sufficient for a gallon-size plant in a hanging basket. Repeat two months later and then do not fertilize again until September or early October. At this time use a liquid fertilizer with a formula of 2-10-10. Apply monthly until the end of bloom.

• PRUNING

Pruning may be done at any time of the year, but the major pruning should be done in January or February. Remove weak and unwanted growth first, and then trim with an eye to developing a compact bushy plant with symmetry, for best appearance.

Overly vigorous growth should be pruned back to encourage branching. Branches tending to grow upward can be trained to cascade by using wooden clothes pins (spring type) on the ends. Do not clamp the jaws of the pin onto the branch, but place the stem into the recessed area just back of the pin tips. For increased weight, clip more pins to each other. Remove the pins when the branch has adopted the proper shape.

• CULTIVAR SUGGESTIONS

At a recent fall meeting of the Camellia-Rama in Fresno, California, Mr. Nuccio, of Nuccio's Nursery, suggested these cultivars for hanging baskets:

'Shishi Gashira'—a double bright rose red.
'Bonanza'—a deep red, large, semi-peony.
'Rainbow'—large, single white with red border.
'White Doves'—semi-double white.
'Showa-no-sakae'—soft pink, medium, semi-double.
'Showa Supreme'—soft pink, large, peony form.

Mr. E. C. (Gene) Snooks' profession is a chemist; his avocation is camellias, especially sasanquas.

HOW TO PRONOUNCE GENERIC PLANT NAMES

The generic name, or genus, serves a plant as the surname serves a person.

Abutilon—ab-yew-til-on: Flowering maple.
Acer—ay-ser: Maple.
Citrus—sit-rus: Orange, lemon, grapefruit, tangerine, bergamot are included in this genus.
Nasturtium—nas-tersh-ee-um: (nose-twist, for its pungency).
Polygala—pol-lig-uh-luh: Milkwort.
Thevetia—thev-vee-shee-uh: Yellow oleander.

Camellia arrangement
by *Adrienne Green*

CAMELLIAS ('TIFFANY')
AND VARIEGATED HOLLY
ARE COMBINED WITH PAINTED
WEATHERED WOOD IN A CONTEMPORARY
BLACK CONTAINER BY SHIRLEE KINSEY....

"CALIFORNIA GARDEN" WRITERS HONORED

Three *California Garden* writers were honored by the National Council of State Garden Clubs, Inc., Pacific Region, at their annual convention held recently in Fairbanks, Alaska.

Adrienne Green and **Sharon Siegan** were given first place, and **Rosalie Garcia** third place Writers' Award for their articles appearing in *California Garden* magazine.

PLANTING BAREROOT TREES

ALTHOUGH IN CALIFORNIA we can grow almost any plant that grows anywhere in the world, Mother Nature has not provided us with the soil to grow it in. We simply have to make soil out of the adobe, decomposed granite, or hardpan that is here. If you want healthy vigorous plants invest in the soil–in humus, mulches, and soil amendments. Good growth depends on good roots, and they can be no better than the soil in which they are growing. Roots grow and develop in moist soil where oxygen is available; they grow little or not at all in dry soil or in soil that is saturated from poor drainage.

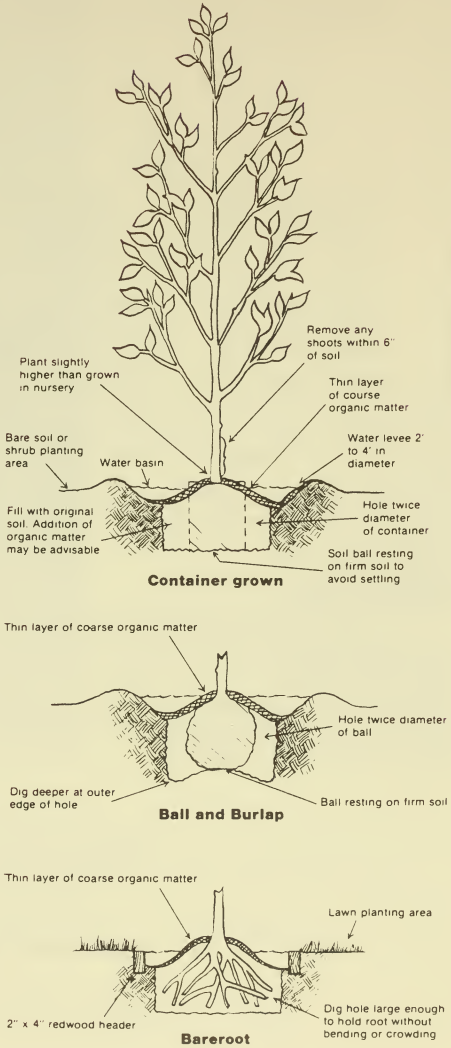
• DIGGING THE HOLE

The bigger the hole, the better the performance of the tree. The bare minimum is a hole 18 inches deep by 18 inches wide–it should be much larger. After digging out the rocks, chunks of concrete, or whatever, fill the hole with water to check the drainage. Clay or adobe soil retains water and drainage will be a problem. Soil penetrants improve soil structure so both water and air can enter the soil easier and penetrate deeper.

In cases where hardpan defies good drainage, sometimes one can dig deeper and find a better soil for drainage below. It may be feasible to dig a shallow trench sloping away from the planting hole and fill the trench with coarse gravel so excess water can be carried away. Another solution is to plant in raised beds that have been filled with good soil.

To improve the texture and moisture retention properties of either clay or sandy soil, add up to one-third of soil amendments such as redwood compost, compost, sewage sludge, rice hulls, or any other inexpensive organic material. This material should be in fairly small particles so it will mix well with the soil. Next, some nutrients of organic or inorganic fertilizer should be added. The safest one to use is a pre-plant fertilizer available at nurseries. But whatever is used be sure the fertilizer does not come in direct contact with the roots.

Make a transition space between the amended soil and the original soil by mixing the two in the outer edges of the planting hole. This facilitates the tree roots spreading beyond the amended soil.



Irrigate thoroughly. It is advisable to delay planting as long as two to four weeks to allow the soil to settle. If the tree is planted too soon the loose soil in the bottom of the hole will settle, causing

the tree to be planted deeper than it should be. This may lead to crown rot problems later.

• PLANTING THE BAREROOT TREE

Partially backfill the hole with prepared soil and tamp to firm the added soil. Place the tree in the hole at a depth that keeps the graft line or bud union about 2 inches above the soil level. Spread out the roots evenly and cover with soil. Tamp lightly so there are no air pockets around the roots.

Build a basin around the tree to hold water; it should be constructed so the water will drain away from the trunk. During the first year the root system is rather small. As the roots spread, the basin should be enlarged.

• WATERING

Even though the soil is moist at the time of planting, thoroughly water the tree after planting, to settle the soil around the root system. Vitamin B_1 should be used in conjunction with the first three waterings to help prevent transplant shock.

Water thoroughly again when the soil dries out (not bone dry). The roots must be kept moist to grow, but do not let them stagnate in soggy wet soil. Clay soils absorb water more slowly and retain it longer, while sandy soil absorbs it more quickly, but does not retain it as long. Deep watering is important for the development of a good root system.

During the first year newly planted trees need watering once a week, or twice, when the weather is hot and dry. As the tree grows it needs less frequent watering, but the amount of water should be increased so a larger area of soil is wet. This encourages the roots to spread farther and deeper. If watered too lightly the root system will develop on the surface and the tree not only will be unstable but also will require more frequent watering.

• MULCHING

A 2-inch layer of mulch should be applied as soon as the tree is planted to discourage weeds and save water.

A.M.

THREE REASONS TO STAKE TREES

TO PROTECT

TO SUPPORT

TO ANCHOR

A YOUNG TREE standing alone with its top free to move usually becomes a strong tree better able to withstand the elements. However, others may not be able to stand against the wind or grow as upright as desired without support. Giving the young tree the proper support is as important as planting properly.

STAKE REQUIREMENTS

When support is essential:

✓ Make the stakes as short as possible, but high enough to hold the tree upright under calm conditions—the tree should return to vertical after the wind has bent the top.

✓ Support the trunk at just one level—near the top of the stakes.

✓ Provide flexible movement at the one tying point—without allowing tree to contact stakes.

✓ Take care not to cause rubbing or girdling injuries.

✓ Use stakes for the shortest possible time.

PROTECTION ONLY

Many trees do not need and should not have support stakes. Most conifers with low limbs, trees with upright growth habits, and trees planted bare root usually do not need staking. Trees having tops that are large in proportion to their roots may be an exception, although many of these can stand alone with some thinning out of branches in the crown. Removing up to one-third of the branches or laterals will reduce crown weight and wind resistance. (See Figure 1.)

Tree trunks do need protection from lawnmowers or other equipment, children playing, and animals. Three stakes placed at the edge of the root ball, 6 to 8 inches from the trunk are better than two.

Protective and anchor stakes should be 3 feet long. Plant them with the tree and drive them into the tamped or undistrubed soil at the bottom of the planting hole until about 18 inches remain above ground level.

ROOT ANCHORAGE

Well-anchored roots are essential if newly planted trees are to grow with upright trunks. Roots may not grow fast enough to anchor the tree before the top has such a dense head of foliage that the tree cannot stand upright—especially in a wind. The frequent irrigation required for young trees adds to instability of the root system. If the root system is not well anchored, trunk movement may break the new roots growing out of the root ball into the surrounding soil.

The suggested short protective stakes for plantings not needing trunk support, can also provide adequate anchorage for the roots. Ties from each of the stakes to the trunk will usually be enough to keep the roots firmly in the ground but the top may need thinning to decrease its wind resistance and weight. (See Figure 1.)

FIGURE 1.
(a) Blackwood acacia, *Acacia melanoxylon*, tied with flexible web belting to anchor stakes (about 30 inches above ground). (b) Some laterals have been removed and others headed to reduce wind resistance, balance the tree, and to reduce competition with the leader.

TRUNK SUPPORT

Many newly planted trees are not able to stand upright without some support. This is particularly true of those previously staked, grown close together, or with their lower branches shaded or removed. Top support for these trees should be as low on the trunk as possible but high enough so that the tree will return to upright after deflection.

To find the proper height, hold the trunk in one hand, pull the top to one side, and release. The height at which the trunk will just return to upright when the top is released is the height at which to attach the ties. Use two or three support stakes and tie the trunk to them. (See Figure 2.)

Support stakes need to be tall enough for the particular tree and driven at least 18 inches into the soil. Use two support stakes with a 15-inch long, 1- by 3-inch crosstie near the ground, as shown in Figure 2.

At the beginning of the dormant season untie deciduous trees to see if they can stand alone. Because of winter storms, do not lower or remove the ties on evergreen trees until just before growth begins in the spring. Thinning the tops will improve their ability to stand alone (See Figure 2.).

If they still need support, check the tying height as described earlier in this section. After lowering or removing the ties, shorten the stakes so they do not rub against the trunk. The ties can probably be removed by the end of the second growing season. If not, check these possible causes: too little top thinning to reduce weight and wind resistance; too few laterals along trunk for adequate increase in the size of the trunk; a weak root system

due to girdling or kinked roots (trees with girdling roots often grow poorly or break at the ground line).

Pruning practices for this tree class should include leaving shoots along the trunk, thinning the top, and in extreme cases, heading long willowy leader and shoots.

STAKE MATERIAL

Wood (2 inches by 2 inches) or metal(T-iron) are suitable. Treat wood, except redwood, with preservative. Metal stakes need a flange or plate just below the ground surface for extra stability.

FIGURE 2.
(a) Top-heavy glossy privet, *Ligustrum lucidum*, with a weak trunk and little taper due to previous staking and removal of lower laterals. (b) The tree stands upright when tied at about 4 feet. (c) Thinning out some of the branches would permit lowering the support tie to 3 feet. Cut back the stakes to within 2 or 3 inches of the ties—otherwise the trunk and branches may be injured by rubbing on the stakes. Keep any laterals that develop on the trunk to nourish it, shade it, and reduce the danger of injury. Short stake provides additional protection from equipment damage.

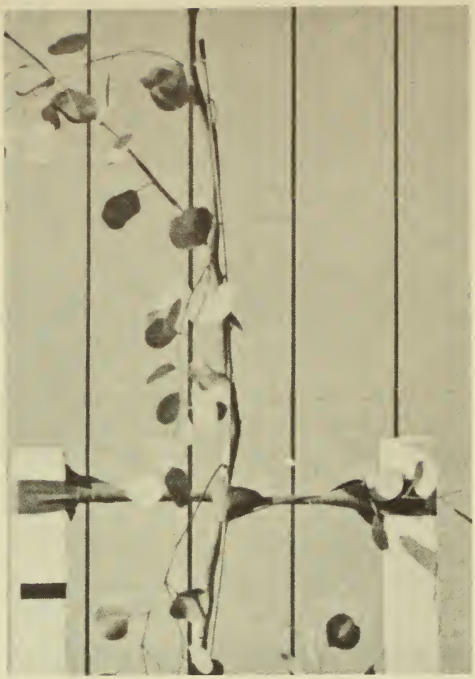


FIGURE 3.
An auxiliary spring-steel rod strengthens this spindly trunk and yet allows flexibility.

TIES

Available materials include elastic webbing, tire cording with wire ties, polyethylene tape, and wire covered with green hose. No matter which you use, it should contact the tree with a broad surface to minimize rubbing or girdling. Tie materials having some elasticity provide greater flexibility as well as support.

The tie should form a loose loop around the tree trunk, tied so the loop around the trunk cannot work towards one of the support stakes in a strong wind. The single tie with a knotted loop at the trunk (See Figure 3.) may be satisfactory for some situations. In windy areas, however, tender bark may be injured as the trunk is blown back and forth against the knot. Two loops, one from each stake, minimize such injury. (See Figure 4.) The topmost

FIGURE 4.
Two loops of elastic webbing allow flexibility of movement while holding the trunk upright. Such loops minimize girdling and rubbing injuries.

loop is tied first to hold the trunk in the desired upright position. The lower tie is then secured to maintain the trunk firmly in the upper loop. Galvanized tacks or nonrusting staples are used to keep the ties from slipping down the stakes. For best results, inspect ties several times during the growing season for slipping, breakage, untying, or trunk girdling.

A.M.

Ref: Staking Landscape Trees, Division of Agricultural Sciences, University of California, Leaflet 2576.

THE GARDEN NASTURTIUM

BARBARA S. JONES

NASTURTIUM IS THE common name by which we know Tropaeolum, the only genus of the family *Tropaeolaceae*. The common garden nasturtium is of the species *Tropaeolum majus*. (The botanists *Nasturtium* is a genus of the mustard family, *Cruciferae*, which includes watercress.) The whole peppery tasting plant is edible and, in small amounts, can be substituted in salads for watercress. The leaves are more tender before the plants flower. There are two known species which have tuberous roots, *T. pentaphyllum*, a red-flowering Argentine variety, and *T. tuberosum*, that has large underground tubers that are gathered for food in western South America. For centuries the buds and green seeds have been pickled and used as a substitute for capers. The plant is high in iron, sulphur, and vitamin C, and for generations has been eaten by sailors at sea to prevent scurvy; the seeds traditionally being sown in boxes or pots of soil placed in sunny portholes. Children delight in sucking the sweet liquid from the sepal which forms a nectar bearing spur.

This decorative climbing perennial, which is usually grown as an annual, is quick and easy to grow in almost any soil in frost-free areas. It is a marvelous 'first plant' for young children as seeds sprout in five to six days (quicker if seeds are soaked overnight in warm water before planting), and flowers in five to six weeks. Seeds will begin to form in two to three months. It will flower for many months if spent blooms are removed. In many areas near the ocean the plant has become naturalized and will bloom year after year as a 'wild flower.'

The best time to plant is in late winter or early spring. The seeds should be planted 3/4 to 1 inch deep in any soil but will grow more leaves in a rich, moist soil and more flowers in a poor, well-

drained, sandy soil. The seeds should be 1 to 3 inches apart and thinned to 6 inches for dwarf varieties and 12 inches for climbing. Plants should be fed monthly with an all purpose liquid fertilizer for flowers and twice monthly for leaves. This is more important for container grown plants. In normal soil no fertilizer is needed. It requires a minimal amount of watering.

The plant is relatively pest free, but in dry weather can become infested by aphids. These can be controlled by pouring cooled soapy (not detergent) water over them 2 to 3 times a day for several days.

Orange, yellow, scarlet, cerise, mahogany, and cream single and double flowers are found on 1 inch tall dwarf plants or long climbing plants. 'Whirlybird,' a type which does well in pots or hanging baskets, does not have a nectar bearing spur. All types of seeds are inexpensive and plentiful and can be found in most seed displays.

The most common way to cure (pickle) them is to pour boiling cider vinegar over a jar of clean green seeds. Cover the jar and place it in a cool dark place for two months. Another method is to pack clean, washed green seeds into a pint jar with a few peppercorns and cover them with hot tarragon vinegar which has been boiled with 2 tablespoons of salt. After covering the jar, it should be placed in a cool, dark place for two months. It is suggested that the cool, dark place is in a shed or garage. . . they do stink a bit at first!

Here are a few little known facts which you may enjoy: The name nasturtium comes from the Latin *nasus* for nose and *tortus* for distortion, because watercress is pungent. Watercress is one of the earliest known food plants in Europe. In the late 16th century, when the garden nasturtium reached Europe, it was named tropaeolum from the Latin *tropaeum*, a trophy, because the long stemed, almost circular leaves resembeled the Roman shield and the flowers resembled the centurian's helmet. Its common name at that time was 'Indian Cress' because the Conquistadores found that it was eaten by the natives of Peru. The plant was taken to the West Indies and then to Spain during the early 1500's, and was first mentioned in English literature in the mid 1500's. It reached California with the first Spanish settlers.

Through the years the garden nasturtium's usefulness has been almost forgotten and it is primarily grown as an ornamental plant for difficult garden areas. There are many new varieties that are extremely attractive. Try them—you will be pleasantly surprised. □

We are delighted to welcome back **Barbara Jones**, a former editor of this magazine. Ed.

ACER PALMATUM

CAROL GREENTREE

The singular form of the maple fruit has delighted many a child and lends itself to a handsome design motif. An Alphonse Mucha Art Nouveau stylization adapted by Carol Greentree.

A PRIZE SPECIMEN in any garden, the *Acer palmatum*, or Japanese maple, adds a colorful and sentimental touch to the California landscape. Many maples are native to the Orient and this one is perhaps the most distinctive of all. *Acer* means "sharp" in Latin; the Romans used the hard, straight-grained wood for spear shafts. Memorable for brilliant autumn hues, these trees have great variety of leaf outline. Many are finely toothed or deeply cut. All maples bear characteristic winged fruits call samaras.

Elegant, refined aristocrats of the garden, Japanese maples are not entirely at home in the semi-arid clime of southern California. Special attention to soil modification and moisture requirements will reward the California gardener well, however. □

Polygala apopetala

THE HOTTES COLLECTION

Illustrations for California Garden

ANNE GALLOWAY

IN THE OFFICE of the San Diego Floral Association is a filing cabinet packed with the drawings and water color paintings of plants by Alfred D. Hottes, editor, author, and lecturer, who died in La Jolla, California in 1955. Although pictures from this, the Hottes collection, have appeared in *California Garden* since the early 1950's, the filing cabinet was acquired only recently. For many years it was kept in the home of Hottes' friends, the Hoyts. Now this collection of pictures has been given to the Floral Association for continued use in the magazine.

The collection is being examined in detail and an index prepared, with notations on the changes in the names of plant species since 1955. The subject matter is confined to ornamental trees, shrubs, and perennials. Mention is made in Hottes' obituary notice of illustrations for a book of succulents, but there are no pictures of succulents in this file.

The sturdy wooden case is filled with dozens of manila folders, each containing from one to six species of plants, just as Alfred Hottes left it. There are pencil sketches, tracings, finished drawings in black ink, water colors, notes, clippings from maga-

The pencil sketches of Alfred Hottes are "working" drawings, preliminary to the formal water color portraits. They are on tattered pieces of paper of various sizes. Their margins contain notes, splashes of paint, figures, random lines and doodles, none of which reproduce well.

For this reason I have traced the original carefully and prepared a clean version for publication. The only thing added is Hottes' initials, in the form in which they appear on his finished work.

A.B.G.

zines, mimeographed forms for botanical information, and dried plant specimens.

The pencil sketches are lively and informal. The formal portraits, often in color, are more dignified. It is the difference between snapshots of youngsters at play and the sedate poses in the high school year book. All are good likenesses.

Formal or informal, Hottes' botanical illustrations are correct in every detail, revealing an underlying scholarship and showing that he devoted much time to a loving delineation with pencil, pen, and brush.

The illustration for this article was taken from the folder containing *Polygala*, or milkwort. This folder is unusually full and gives an excellent idea of Hottes' working procedures. Among other items it contains:

1. On yellowed paper, a pencil sketch of a polygala. Some leaves are darkened with black water color. There are splashes of green and purple paint on the margins where he tried out colors for the final portrait. A pencil line frames the sketch, suggesting a border, with leaves and flowers escaping confinement at the edges. (This sketch is reproduced here without the splashes of water color and other disfigurements.)

2. A dried specimen, leaves still showing some green. The small pea-shaped flowers have faded to brown. This is taped to a pencil sketch, one spray of flowers neatly drawn, two more merely indicated.

3. A finished water color portrait of *Polygala apopetala*. Over it is taped a sheet of tracing paper with notes in green ink. "Keel at first greenish white, turning purple with age." "Flowers red-purple. Though considered pea-like, the flowers are made up of 5 sepals."

4. A preliminary drawing, on tracing paper, of a flower spray. The position of the leaves is indicated by long narrow rectangles.

5. A finished illustration in black ink, *Polygala dalmaisiana*, with an overleaf of tracing paper with notes. "Flowers rosy purple, pea-shaped, almost continuous bloom."

6. Two mimeographed forms, from which we learn that *Polygala dalmaisiana* was "named for M. Dalmais, French gardener who raised it in 1839," and that *Polygala apopetala* is "Greek for much milk, some sorts were supposed to increase milk in cattle."

It is not surprising to learn that when he was a young man Hottes taught floriculture and ornamental horticulture at Cornell and Ohio State universities. His interest in research was lifelong and not confined to botanical subjects. He was well informed on famous artists, writers, Christmas traditions, first editions, and Japanese prints, to name a few of the subjects which engaged his attention at one time or another.

After he left Ohio State in 1929 Hottes became associated with the Meredith Publishing Company. There he was garden editor of *Better Homes and Gardens* until 1942, when he retired to work as a free-lance editor, writer, and lecturer. He edited and compiled several books on gardening for the De La Mare Publishing Company.

Apparently he took up botanical drawing only after he retired. His books for De La Mare were illustrated largely with photographs and some work by the artist Lindsay Lockerby Field. Field produced strong black and white illustrations, a good example of which is found on page 182 of Hottes' *The Book of Shrubs* (De La Mare, 1952). Hottes obviously admired Field's work and was influenced by it.

Also in *The Book of Shrubs* are a few drawings by Hottes, some of the earliest in print. One page shows various types of viburnum leaves. It was a modest beginning.

Hottes was sixty years old in 1952. During the next three years he made illustrations for books which he was planning to publish. He prepared the water color portraits which are in the Hottes file and tried to get a publisher for them. When this attempt failed he refused to issue the book in black and white.

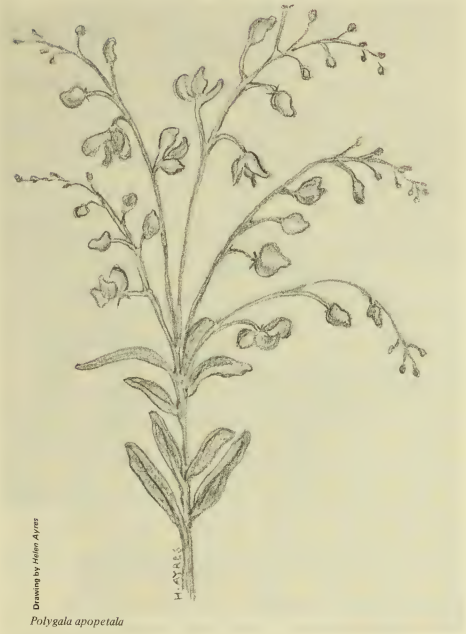
An old friend, V. T. Stoutemyer, wrote: "Unfortunately the high cost of publication made the appearance of this volume impossible. It could have been published with line illustrations, but he steadfastly refused to compromise on his original plan for the book."

Hottes was rightly proud of his work, and he obviously valued the water color portraits more than the black and white illustrations and informal pencil sketches. But I think he underestimated the appeal of his casual drawings. They have such a sense of movement that one can almost see the plants swaying in a slight breeze, exhibiting a vitality too often missing in botanical drawings.

With a little tidying up these drawings can be made presentable for public appearances and we expect to be displaying them in future issues of *California Garden* so that you may enjoy them, too.

POLYGALA APOPETALA AND THEVETIA THEVETIOIDES

SAMUEL AYRES, JR., M.D.



Polygala apopetala

Thevetia thevetioides

TWO RARE MEXICAN FLOWERING TREES

THESE TWO BEAUTIFUL flowering trees which are indigenous to Mexico, thrive in southern California's mild Mediterranean type climate, but are rarely seen in home gardens or public landscaping, including parks. My wife and I have had a very favorable experience with both species in our home garden in La Cañada Flintridge, close to Descanso Gardens in the foothills north of Los Angeles and Glendale. Both of our trees are over 25 years old and have survived occasional frost and, on several occasions, temperatures as low as 28° F. *Polygala apopetala* has been known to tolerate temperatures as low as 20° F. and *Thevetia thevetioides* as low as 27° F.

Polygala apopetala is found in Baja California, and is a member of the family of polygalaceae. It usually grows as a multitrunk tree; my tree is 15 to 18 feet in height. It is evergreen with small, narrow leaves and usually blooms several times a year; in 1981 my tree bloomed in the spring, in midsummer, and again in the late fall. When in full bloom, it is

covered with clusters of small purple, pea-shaped flowers resembling a purple cloud.

The cut flowers usually last for three or four days if the stem is split two ways and a heaping teaspoonful of Floralife is added to a quart of water. The blooming period usually lasts about six weeks and adds a unique flash of color to the landscape.

Thevetia thevetioides is a member of the family of apocynaceae and is indigenous to Mexico, especially in mountains between Puebla and Oaxaca. It is related to *Thevetia peruviana* (yellow Oleander) but grows to a height of 15 to 20 feet with narrow, evergreen leaves, and blooms at intervals during the summer and fall, with large yellow, open, trumpetlike flowers which suggest a tropical effect. The tree tends to have a multitrunk form, and when a branch is cut, a milky juice exudes. Our own specimen is probably over 25 years old and has withstood winter temperatures 28° F. on several occasions. When it is in flower, it gives one the illusion of being in Hawaii.

Both *P. apopetala* and *T. thevetioides* grow easily from seed although our own specimen of Thevetia has set seed only a few times. Most commercial nurseries and landscape architects are unfamiliar with these two beautiful trees, hence they are rarely seen. □

Author's Note: They are both described and illustrated in color in the recently produced second edition of *Color for the Landscape*, under the title, *Flowering Plants in the Landscape*, edited by Dr. Mildred E. Mathias, Emeritus Professor of Botany, UCLA, with most of the color pictures by the late Ralph D. Cornell, F.A.S.L.A., and published by the University of California Press.

Editor's Note: Dr. and Mrs. Ayres operate a small nursery in La Cañada Flintridge.

Reviewed by **RUSSELL MACFALL**

Kew: Gardens for Science and Pleasure, edited by F. Nigel Hepper. Stemmer House Publishers, Inc., 2627 Caves Road, Owings Mills, Maryland 21117, 1982, 195 pages, $24.95.

Another book about the Royal Botanic Gardens near London. It seems scarcely possible, but this one is especially welcome because it is the most comprehensive and balanced one for the general reader besides being quite beautiful.

Kew Gardens, as every gardener knows, is the most renowned place of its kind in the world, a 300-acre tract with gardens of every kind indoors and out, historic buildings and traditions going back to King George III's mother, whose private garden was its birthplace. But this book devotes most of its pages to the 500-acre Wakehurst Garden in Sussex, Kew's country annex, and to the scientific significance of the gardens at both places.

Kew with its five million preserved plant specimens and its library of 750 thousand items, and its living species numbering some 50 thousand, is at the center of all botanic research. At Wakehurst, for example, methods of preserving living seeds in a seed bank have been developed for endangered species, and just as Kew's curators were instrumental in bringing quinine and natural rubber to the world's attention and commerce, so today it acts as an international exchange center for living plants and sends out its plant-hunting expeditions.

The book is handsomely illustrated in color. Its authors are the major curators and scientific officers at the gardens, of whom the editor is one, and the foreword is by Prof. E. Arthur Bell, their director. It was originally published in London by Her Majesty's Stationery Office, the royal publisher.

LOOK FOR THESE TESTED PRODUCTS

IDEAL FOR SAN DIEGO COUNTY CONDITIONS

A DISTINCTIVE PRODUCT . . .

MILORGANITE

MILORGANITE -- 100% true organic (no synthetic elements), slow - release, non-burning fertilizer for trees, shrubs, turfgrasses, ground covers and flowers. Easy to use, stores well.

At Your Favorite Nursery

LET "KILLER" SNAILS (DECOLLATE) LOOSE IN YOUR GARDEN TO CONTROL WITHOUT POISONS THOSE TROUBLESOME BROWN SNAILS. THE DECOLLATE SNAILS WON'T EAT YOUR PLANTS.

AVAILABLE IN BOXES OF 50

At Your Favorite Nursery

L O A M E X

THE ULTIMATE IN SOIL AMENDMENTS

LOAMEX is a long lasting blend of organic and inorganic materials.
- MADE from finely ground fir bark, redwood sawdust, diatomaceous earth, iron and nitrogen.
- WILL outlast all other amendments.

LOAMEX contains humus, humic acids and soil bacteria to help break up heavy soils.

DO NOT BE MISLEAD by amendments that are represented as a cure-all. You need 10% - 40% organic amendments to change the soil texture.

AVAILABLE

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GOLD CUP . . . the newest development in a complete POTTING SOIL

- MADE IN SAN DIEGO FOR OUR CONDITIONS.
- IDEAL FOR CONTAINER GROWING OF FLOWERS, VEGETABLES AND HOUSE PLANTS

Ask for GOLD CUP . . . and see the difference!

AT YOUR NURSERY

NOW IS THE TIME

compiled by PENNY BUNKER

A CULTURAL CALENDAR OF CARE FROM OUR AFFILIATES

BEGONIAS MARGARET LEE

Now is the time—

- to keep fallen leaves off foliage and pots.
- to remove dead leaves from plants.
- to be sure plants do not become too dry.
- to move plants to a more favorable location if they are getting too much moisture from rains.
- to spray for mildew, mealybugs, or loopers.
- to control slugs and snails.
- to start tubers for bloom later in the year.
- to start cutting back—lightly on the cane and shrub types toward the last part of this period.
- to start growing some new varieties from seed.

BONSAI DR. HERBERT MARKOWITZ

Now is the time—

- to use a dormant spray such as copper, oil, or lime/sulphur mixtures—particularly on maples, quince, and other deciduous trees, after they have been pruned.
- to watch for aphids and other sucking insects and spray accordingly.
- to graft conifers during January, and the deciduous trees in February.
- to observe deciduous trees carefully. If there is warm weather in late February, keep trees in the shade so they will not start blooming and sprouting too early.
- to not fertilize your trees.
- to remember NOT to overwater.
- to reduce watering during rainy periods.

BROMELIADS LINDA PRELL

Now is the time—

- to turn off the hose—do NOT water plants when cold and rainy.
- to dump water out of plant cups to prevent damage during cold spells.
- to forget the fertilizer. Plants are not growing during winter, therefore, they do not need it.
- to check for snails and slugs. Spread bait on soil, NOT in cups of plants.
- to protect plants at night in frost areas. Cover them with newspaper, sheets, plastic bags, or put them in the garage if necessary.

CACTI & SUCCULENTS SAN DIEGO CACTUS & SUCCULENT SOCIETY

Now is the time—

- to protect cacti and other tender succulents from frost.
- to remember these unique plants cope better with cold weather in a DRY state.
- to let the rains take care of plants in the ground and exposed pots.
- to collect rain water to use the rest of the year.
- to inspect for scale and other insects. Wipe scale off with a cotton swab dipped in alcohol and water, or spray with that mixture, or pyrethrum, or malathion.
- to keep watch for snails and slugs.
- to pull weeds when small; do not let them seed.
- to withhold fertilizers; plants need to rest at this time of year.

CALIFORNIA NATIVES CALIFORNIA NATIVE PLANT SOCIETY

Now is the time—

- to reorganize your garden, grouping the natives, Australians, and other drought-resistant plants together.
- to sow seeds of wildflowers in prepared beds.
- to plant and transplant natives so they can become established and thrive during the rainy season.
- to check plants after heavy rains, making sure that water does not stand around them, or that mud does not build up above the original soil line on the main

stem.

to plan at least one trip to the desert to enjoy its flowers in their own habitat.

CAMELLIAS BENJAMIN BERRY

Now is the time—

to choose and plant camellias while they are in bloom.

to remove and be sure to pick up fallen blossoms to avoid infestation of sclerotinia (petal blight).

to use a fungicide if needed.

to feed 0-10-10 fertilizer to established plants.

to maintain a regular watering program to supplement periods between rains.

to remember camellias like moist, but NOT wet soil.

to check soil mulch and add either fir bark or pine needles at base of established plants.

to continue to spray for looper worms and dust for leaf beetles with chlorodane.

to not fertilize newly transplanted bushes, but water well and often with vitamin B_1 solution.

DAHLIAS ABE JANZEN

Now is the time—

to cut off the tops just above the soil level, and dig any tubers left in the ground. By early January the tops should be completely withered.

to store tubers without dividing, and leave on any soil that clings to them. Store in vermiculite or sand and keep in a cool area.

to start in February to prepare the planting bed. Turn the soil, add humus, and fumigate. Two or three weeks before planting, thoroughly dig in humus and equal parts of superphosphate and sulphate of potash.

EPIPHYLLUMS (Orchid Cactus) FRANK GRANATOWSKI

Now is the time—

to take advantage of the beneficial rains. If plants are potted in the proper porous soil even prolonged heavy rains will have no harmful effect on them. Collect rain water for future use. Store in covered opaque containers to prevent infestation of mosquito larva and buildup of algae.

to bait for slugs and snails. A few granules of Sluggeta placed at the base of the plant has proved to be very effective and leaves little or no unsightly residue.

to protect from unexpected frost and strong wintry winds.

to feed mature plants with nitrogen-free or low nitrogen fertilizer such as Bloom-Builder (0-10-10) to promote blooming in the spring. Either liquid or time-release granules can be used. If liquid fertilizer is used, a subsequent application is advisable in about a month.

to prune out non-productive and unsightly growth, to allow more energy to be utilized by newer and healthier branches.

to maintain preventative pest control by keeping plant containers free of debris. Spray with an insecticide only when absolutely necessary. Orthene, Malathion, and Cygon are available locally: read and follow directions carefully!

FERNS RAY SODOMKA

Now is the time—

to spray for aphids—especially maidenhair ferns.

to keep after slugs, pill bugs (sow bugs), etc.; cold weather does not stop them.

to water; do not rely on rains for sufficient moisture.

to trim off old fronds only in frost free areas.

to fertilize platyceriums (staghorns)—give bone meal, hoof and horn, or a high-nitrogen liquid.

to take "pups" from platyceriums and mount.

to replant spore.

to cover and protect plants during the night in frost areas. Cover them with newspaper, sheets, or plastic bags. Put them in a garage if necessary.

to cut back on fertilizing—use pellets instead of liquid, due to the cold nights.

FUCHSIAS WILLIAM SELBY

Now is the time—

to prune, if you have not already, after the last frost danger. Prune when the soil is moist and leaves are turgid (leaves and stems are full of water).

to prune heavily, leaving strong stems about ½ inch ahead of a node. Remove all weak, thin branches. Plants in baskets should be cut back to edge of basket and trimmed to within 4 inches of soil on top.

to shape other plants according to variety.

to take cuttings from good end clippings; they take a little longer to root in cool weather.

to spray remaining foliage and the ground to eliminate pests that might winter over.

to apply a 10-5-5 fish-type fertilizer after pruning.

GERANIUMS CAROL ROLLER

Now is the time—

to water only when plants have become fairly dry. Each watering should moisten the entire soil ball. Excess water should escape through the drainage holes.

to continue feeding a balanced fertilizer dissolved in

water, using it at half recommended strength every 4th or 5th watering or as often as needed to keep the plants growing well.

to prune plants which have not been cut back. Leave some green leaves on each stem cut back. Lanky plants which have already been pruned should be cut back again.

to tip pinch other plants that were pruned earlier.

to make cuttings from the prunings. Shelter the cuttings from extreme weather conditions.

to continue pest and disease control using products according to the manufacturer's directions.

to give temporary shelter from freezing if temperatures fall below 30° F.

to rotate plants regularly for symmetrical shape.

GESNERIADS (African Violets and Gloxinias are in this family)

MIKE LUDWIG

Now is the time—

to prepare pots for the spring planting season—wash with hot water and let stand overnight in Clorox solution to sterilize them. Wash thoroughly after the soaking and let dry for a day or more.

to spray for pests and disease, if necessary, plants are somewhat dormant and less subject to damage. Check undersides of the leaves and the crowns of the plants.

to be sure NOT to water on a cold or cloudy day, or late in the afternoon to prevent many problems.

to start rhizomes of achimenes. Place them on top of damp vermiculite in a show box; watch the new growth for mold. Sprouts should be showing in 15 to 30 days. Place them in a loose potting mix, barely cover, water thoroughly, and wait for sprouts to show through the soil.

to repot streptocarpus. Remove last years flowering leaves and clean up the plant; repot to have a better plant.

IRIS

SAN DIEGO–IMPERIAL COUNTIES IRIS SOCIETY

Now is the time—

to make last plantings of the bulbous iris for spring bloom.

to continue a watering program, especially if rains are light.

to start a regular spray program with copper oil spray to help control rust.

to start in February to feed all iris with 0-10-10 liquid fertilizer; follow directions carefully and do not over fertilize.

to establish a regular program of snail, slug, and aphid control.

to keep old brown fans cut off tall-bearded; good ground cleaning and spraying is helpful in pest control.

ORCHIDS

CHARLIE FOUQUETTE

Now is the time—

to keep outdoor-growing orchids, including cymbidiums in spike, under cover to protect them from the cold rains and possible hail damage.

to continue staking and grooming cymbidium flower spikes.

to remember to keep nobile-type dendrobiums on the dry side. Watch for the swelling of nodes for flower production, then move them where it is warmer.

to be very careful when watering phalaenopsis plants. Cold water on the warm surface of leaves will damage the foliage and leave unsightly pitting. Also keep water out of the crowns to prevent possible loss from crown rot.

to watch for cold drafts and sudden temperature changes for bud blasting on flower spikes. Phalaenopsis are particularly sensitive and quick to bud blast.

to be careful when moving spiking phals; they must be facing the same direction in which they were growing to prevent distorted and crooked flower spikes.

to watch closely for slugs and snails; these pests are coming out of hibernation and proliferating after the rains. Grandules of 7.5 percent metaldehyde is an excellent bait and does not attract children or pets and does not leave a mess.

to keep bait out for sow bugs. They are hazardous to small seedlings and will cause potting medium to break down prematurely with their working in the pot.

to watch for scale and mealybugs as the weather starts to warm up. Denatured alcohol in a spray bottle is a good exterminator. For scale use malathion 50, WITHOUT a petroleum base, to combat both soft- and hard-shell scale.

to scrub and sterilize pots before spring arrives when it is time to divide and repot. The best time to repot cattleyas is AFTER the new eye has broken and formed and is producing its own roots.

ROSES

SAN DIEGO ROSE SOCIETY

Now is the time—

to finish all major pruning; follow with a garden cleanup, and dormant spraying of bushes and surrounding areas.

to watch for dates of the demonstration on pruning in Balboa Park Rose Garden (San Diego, Calif.).

to plant bareroot roses. Mound each bush with a damp

mulch material until new growth starts, to prevent dehydration.

to feed established roses as new growth starts—one cupful per bush.

to give newly planted bushes a liquid fertilizer six weeks after planting.

to start preventative spraying in February for mildew and aphids; use ½ strength on new foliage.

to add iron chelates after roots start growing (iron can only be absorbed by new roots).

to establish a regular watering and spraying program.

VEGETABLES GEORGE JAMES

Now is the time—

to set plants of broccoli, Brussel sprouts, cabbage, celery, cauliflower, chard, and collards any time the soil is dry enough to work.

to start seeds indoors of spring vegetables that can be transplanted.

to plant divisions of artichoke, roots of asparagus, and plants of fruiting berry vines as soon as possible or before the end of February.

to search for new and superior varieties of spring and summer vegetables.

GREEN THUMB SUZY SPROUT

Now is the time—

to make marguerite cuttings from new tips. Remove lower leaves and insert cutting in rooting medium. Keep in shaded area until rooted.

to start planting of gladiolus bulbs; make successive plantings at monthly intervals for flowers over a longer period of time.

to plant hybrid amaryllis bulbs, with the tip of nose just showing, in a sunny or semi-shaded area.

to cut chrysanthemums back to the ground.

to plant bareroot trees.

to prune flowering trees and shrubs. Pruning at this time will shape the plants and the flowers may be used in arrangements.

to spray deciduous trees and shrubs with a combination insecticide and fungicide, such as oil and lime-sulphur or copperas. Follow directions as given. Continue bait for slugs and snails.

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San Diego, CA 92101 USA

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SAN DIEGO COUNTY ORCHID SOCIETY

PRESENTS

37th ANNUAL ORCHID SHOW

A FESTIVAL OF ORCHIDS

MARCH 19 AND MARCH 20, 1983

PLANT SALES

AL BAHR TEMPLE

HIGHWAY 163 & CLAIREMONT MESA BLVD.

(Next to the Sands Hotel)

MARCH 17	SHOW SETUP
MARCH 18	JUDGING AND PREVIEW NIGHT
MARCH 19 & 20	OPEN TO PUBLIC

REMEMBER THIS IS A WEEK AFTER THE SANTA BARBARA SHOW

FOR QUESTIONS CALL OR WRITE:

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